North Dakota Criminal Justice Information Sharing

Executive Summary

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Introduction

The effectiveness and efficiency of criminal justice programs and services depends upon timely access to current, complete, and accurate information.

In North Dakota, as in many other states, the effective operation of the juvenile and adult justice system is a critical factor in ensuring and improving public safety. State and local jurisdictions across the nation invest a significant portion of their overall budget in the staff, facilities, equipment, and information technology (IT) needed to deliver justice services to the public. As is typical in many jurisdictions, the IT systems that help manage and plan criminal justice operations are often functionally limited and lack the ability to electronically share information among justice stakeholders and their systems. Nationwide, increasing attention is being given to investing prudently in IT as a key enabler for implementing change and improving information sharing across the justice enterprise.

The North Dakota criminal justice community has recognized this opportunity and has taken specific and focused steps to assess the current situation and develop an organized plan of action for improving information sharing among stakeholders. These steps have resulted in the Criminal Justice Information Sharing (CJIS) plan summarized in this document.

Background

North Dakota's governor and the criminal justice community have taken a number of steps to engage and guide stakeholder organizations in improving the state's information-sharing capabilities.

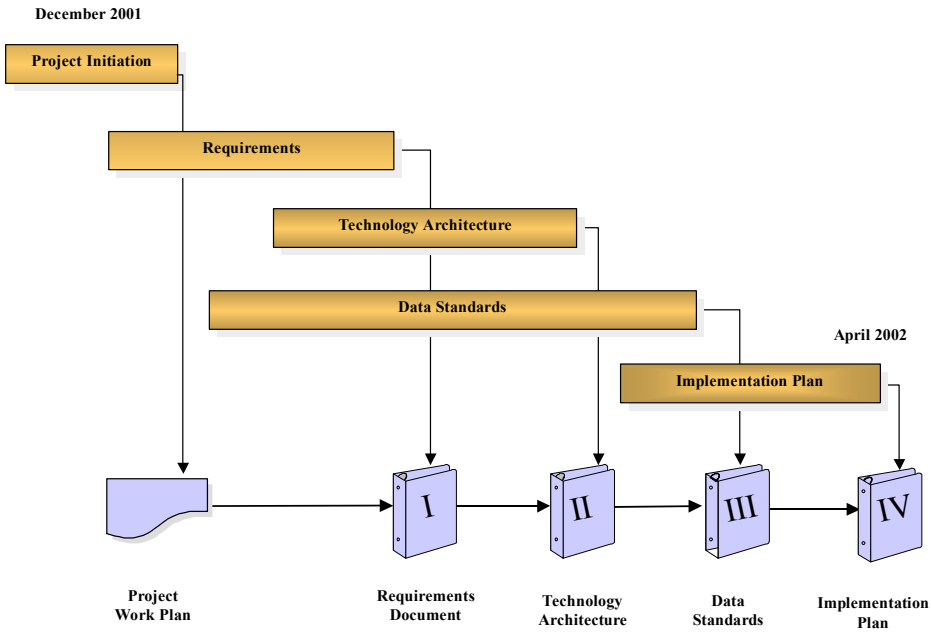
Stimulated by the criminal justice community's interest in improving information sharing, North Dakota applied for and received a small grant in the fall of 2000 from the National Governor's Association to develop an initial information-sharing plan. At about the same time, the state applied for technical assistance from the National Consortium for Justice Information and Statistics (SEARCH). The resulting planning and SEARCH technical assistance efforts were coordinated and produced a series of initial recommendations and tactical action items for the criminal justice community. Based on the identified action items, North Dakota has taken a number of steps to engage and guide integration partners and develop a more comprehensive CJIS plan. In January 2001, the governor issued Executive Order 2001-01, which established a Criminal Justice Information Board and Criminal Justice Information Executive Committee to set information-sharing policy and coordinate specific information-sharing activities in the criminal justice community.

While these initial planning and assistance efforts provided an overall perspective for improving information sharing, the criminal justice community also recognized the need for a more comprehensive and integrated action plan. Stakeholders desired a clear vision for that future that encompassed definition of information-sharing requirements, standards for important criminal justice data, an overall technology architecture within which to improve information sharing, and a tactical plan of action for proceeding and guiding information-sharing efforts in a coordinated manner.

Based on these prior planning and assistance efforts and the committed actions of the North Dakota criminal justice community, the state was awarded a Department of Justice grant to further define the actions needed to achieve its CJIS goals. Since it is critical that the state plan and implement technology improvements in a well-organized manner, a structured planning approach, summarized in Figure 1 below, was followed.

The criminal justice community followed a structured planning approach to developing the CJIS plan.

Figure 1
Planning Approach



Integration Framework

Information sharing within the context of this plan is characteristically referred to as "integration." Therefore, the first step in preparing the CJIS plan was to define what is meant by integration. In general, integration means forming, coordinating, or blending varied components into a functioning or unified whole. This indicates that integration planning must take an enterprise view of priorities and changes needed in business process and technology, putting agency-specific interests and priorities in the context of the entire criminal justice community's needs.

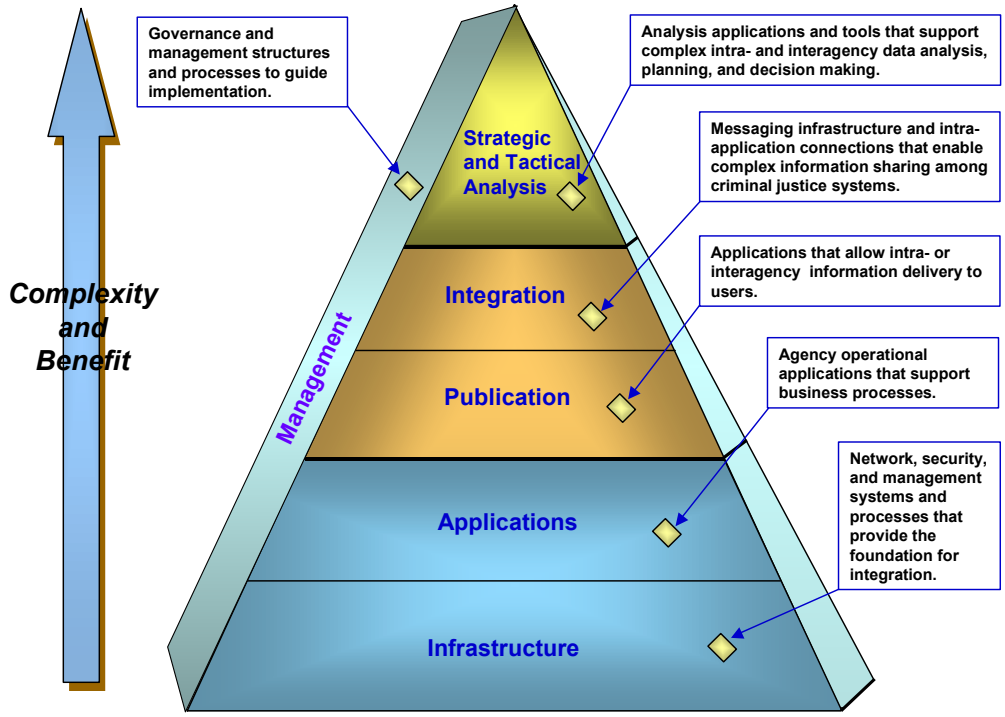
Successful integration planning requires enterprise-level thinking supported by the cooperative and coordinated efforts of criminal justice organizations and technology service providers.

In order for the criminal justice community to reap the benefits of integration, the current situation was viewed from two primary and closely related components: business requirements and technological capability. Both the business and technology components of integration must be considered concurrently in implementing the CJIS plan. Therefore, the various business and IT support functions must work closely and cooperatively, ensuring that they maintain a shared perspective in determining plans, setting priorities, implementing needed changes.

If North Dakota is to realize improved integration within the criminal justice stakeholder community, a coordinated set of focused actions must be taken within a defined framework to deliver this future integrated environment. This defined framework provides the conceptual basis for identifying the strategies, plans, and projects that will move the criminal justice community toward the desired future environment. As part of the planning process, six major functional elements within the integration framework were examined. Figure 2, below, is a conceptual view of the various integration framework elements, their relationship to one another, and the inherent complexity and resulting business value delivered through investment in each layer or dimension.

The integration framework provides an aggregate model to facilitate planning and coordinate the efforts necessary to deliver an information-sharing environment.

Figure 2
Integration Model



Since each element, or dimension of integration supports realizing incremental functionality and benefit, it provides a basis for assessing the current environment and identifying the requirements that must be met to move the criminal justice enterprise toward a fully integrated model.

Requirements for Integration

Both business and technical requirements must be addressed to prepare for and implement an integrated CJIS environment.

Based on the integration framework and analysis of the current business and technology environment, the following high-level requirements were identified to meet the needs of the North Dakota criminal justice community and its stakeholders. These requirements are summarized below:

- *Infrastructure* – The computing network and desktop/server infrastructure must be improved to minimize overall costs and provide a robust technical environment for CJIS. This includes expanding use of the state Information Technology Department's (ITD's) shared communications infrastructure and services, improving security, providing for remote/mobile information access, and migrating to a single data center approach for primary criminal justice systems.
- *Applications* – Major requirements in this area include acquiring a State's Attorney case management system and a common local jail management system, procuring a statewide intelligence system, and completing other key planned projects that provide new or improve existing applications.
- *Publication* – This area includes key requirements such as providing a single point of access that eliminates the need for the user to go to multiple systems for information, defining and implementing standard data definitions, cleaning up existing data to

conform to the defined standards, and creating links between systems for publishing and propagating data.

- *Integration* – The key requirement in this area is to provide a standard technical architecture for structuring and exchanging data to minimize redundant data capture and improve the timeliness and accuracy of information. For example, electronically providing law enforcement charging information to prosecution and filing the complaint with the court can greatly reduce redundant data capture and improve the efficiency of the criminal justice system.

If information sharing is to be improved, the state must invest appropriate resources to guide, govern, manage, design, and implement the desired changes.

- *Strategic and Tactical Analysis* – Currently, this kind of analysis, particularly where it involves data from multiple organizations, relies on intensive manual efforts, sometimes supported by extracting and integrating data from multiple operational systems. More robust tools operating against easily accessible and accurate data from multiple criminal justice partner systems are needed.
- *Management* – Appropriate governance, policy, administration, and support mechanisms must be in place to deliver the desired improvements in information sharing. If integration of criminal justice systems is to become a reality, it must be supported by executive-level sponsorship, investment in needed technical and business resources, and focused, full-time tactical leadership of the integration plan from both a business and technical perspective. Criminal justice organizations must take an enterprise view of operational and informational needs, and appropriate policy and statutory changes must be defined and implemented. Finally, a long-term funding plan incorporating and integrating federal, state, and local funding sources along with equitable cost-sharing mechanisms must be developed and actively managed.

These needs must be addressed if North Dakota is to improve criminal justice services and realize the benefits in operational efficiency and effectiveness that can be enabled through improved criminal justice system information sharing and integration.

Vision and Goals

Vision and goals set a target for improvement and provide direction to the implementation effort.

A key step in defining a plan for the future is identifying the long-term vision and strategic business goals to guide plan implementation. The overall vision for the future integrated criminal justice environment sets a target for improvement and provides direction to the implementation effort. Strategic business goals have been established to provide guidelines to the implementation teams. North Dakota's vision for CJIS can be summarized as follows:

> *Improve public safety by providing effective and efficient justice policies, processes, and information systems required to capture and share complete, accurate, and timely information in support of program operations and informed decision making across jurisdictional and organizational boundaries statewide.*

In order to realize the CJIS vision, specific business goals were defined to provide further guidance and focus for implementation planning. These goals represent desired future attributes or performance characteristics in place within the North Dakota criminal justice community. Eight strategic goals were identified:

Business goals are supported by enabling technology goals and serve to translate the vision into a set of desired business and technical outcomes.

- *Goal 1 – Ensure Effective Operations*. Criminal justice operations will be characterized by highly efficient and effective programs and processes.
- *Goal 2 – Provide Responsive Services*. Criminal justice services and programs will be responsive to community needs, ensuring that the right services are delivered, at the right time, to the right people and locations.
- *Goal 3 – Improve Decision Making*. The criminal justice community will make high-quality decisions based on complete and accurate information.
- *Goal 4 – Improve Criminal Justice Staff Safety*. The tools and systems provided in support of integration and information sharing will help ensure the safety of criminal justice personnel.
- *Goal 5 – Ensure Access to Information*. The citizens of North Dakota and criminal justice partners in the state will have easy access to the justice services and information they need.
- *Goal 6 – Deliver Timely Information*. Criminal justice information will be available and delivered to justice partners in a timely fashion.
- *Goal 7 – Implement Cost-Effective Systems*. Technology investment decisions will focus on ensuring cost-effective implementations and on managing ongoing costs from an enterprise perspective.
- *Goal 8 – Ensure Privacy and Accuracy*. The capture of criminal justice will be properly managed to ensure accuracy and prevent unauthorized access, including the ability to purge, seal, and maintain the confidentiality of data.

In addition to these business goals, enabling technology goals were identified that help ensure alignment between the business and technology efforts. Collectively, these goals translate the vision into a set of desired outcomes for implementation of the CJIS plan. They set targets for improvement; provide direction to the plan implementation teams; and are an important tool for decision makers as issues surface about options, direction, and priorities.

Architectures are defined for components that are visible to end users as well as for those that users do not see but are needed to provide the infrastructure and processes required to operate and support CJIS.

Business and Technology Architecture

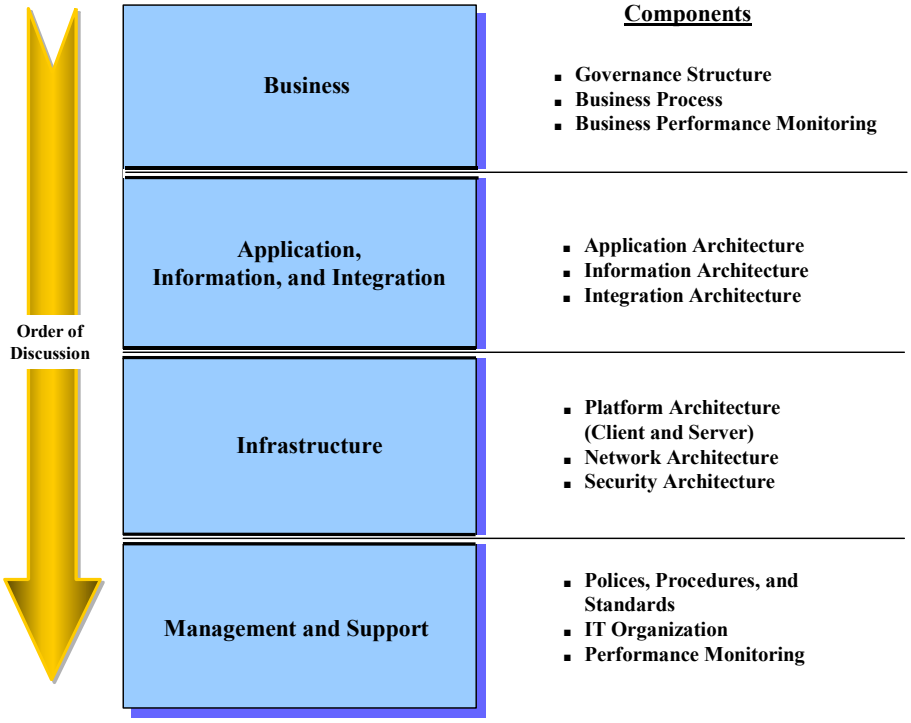
Using the vision, goals, and integration requirements as a guideline, a business and technology architecture has been defined that provides structure and guidance for delivery of CJIS. Each component of the target architecture addresses a specific functional element of the desired future environment.

The functional elements proceed from the components that guide the CJIS projects and business direction; to the technological components that users see and interact with; to the underlying technological and process components that are largely invisible to users but are required to operate, manage, and sustain the CJIS environment.

Developing target models for the future environment for each of these functional components helps to ensure that a comprehensive and coordinated approach to planning and subsequent implementation is maintained. Figure 3, below, illustrates the four functional components of the future business and technology architecture.

The business and technical architectures further define and structure the future information-sharing environment.

Figure 3
Future Architecture Components



The four architecture components are summarized below.

- *Business Architecture*. This component provides the overall management structures for CJIS plan implementation, outlines important information exchanges, and accommodates the implementation of measures to determine realized business outcomes. Key focus areas in this component include:

  - *Governance Structure*. Leveraging existing governance entities such as the Criminal Justice Information Board and CJIS Advisory Committee, the plan provides an overall structure for managing implementation at both the policy and tactical levels. As this structure is put into operation, it will be complemented by the management tools and disciplines needed to manage and monitor individual projects and the CJIS plan.

  - *Business Process*. The CJIS plan identifies prioritized information exchange candidates for automation. The exchanges were assessed based on the perceived overall benefit to the criminal justice community balanced against the complexity of implementation. This approach positions the state to provide near-term results and benefits. As specific exchanges are defined in more detail during implementation, they will require changes to agency business processes that take full advantage of integration.

  - *Business Performance Monitoring*. Although the CJIS plan does not identify specific business performance measures, they should be established as a part of each implementation project. Identifying and monitoring measurable business outcomes expected from each CJIS plan project will provide information needed to make appropriate adjustments focused on achieving desired business outcomes.

CJIS plan implementation must include appropriate governance structures, technical and business management staff, and supporting processes and tools.

The state and local operational applications provide for the initial capture of key criminal justice information that will be shared through an integration architecture.

- *Application, Information, and Integration Architectures*. This component provides the applications that support daily agency operations and the mechanisms used for storing and sharing criminal justice information. Key focus areas of this component include:
  - *Application Architecture*. The architecture will focus on an Internet-based environment, utilizing commercially available standards-based CJIS applications versus custom-developed systems. Steps will also be taken to reduce the number of application solutions that serve the same functional purpose (e.g., common local detention management, law enforcement records systems) where feasible and consistent with business needs.
  - *Information Architecture*. This architecture establishes the manner in which information will be managed, stored, and indexed in the future CJIS environment. A standard CJIS data dictionary will provide consistency in the data, an indexing repository will maintain the unique identifying mechanisms for facilitating data exchange, and a data warehouse will provide a repository to off-load query and analysis workload from operational systems.
  - *Integration Architecture*. Utilizing a common Web portal based on a message-based common interface design, users will be able to access and exchange information. The architecture will utilize a master index to link information, a Web site to provide the information, and a repository to store automated business rules that govern information exchanges.

The infrastructure architecture provides the underlying components required to exchange information and ensure its security.

- *Infrastructure Architecture*. This component provides the hardware, systems software, communications, and security components of the future CJIS environment. Key focus areas in this component include:
  - *Platform Architecture*. The platform architecture will be based on stable production technology, incorporate appropriate redundancy to ensure 24/7 operations, and allow remote manageability from a centralized CJIS data center managed by ITD.
  - *Network Architecture*. The network environment for CJIS will leverage the existing and planned statewide communications infrastructure and migrate the North Dakota Law Enforcement Telecommunications System (NDLETS) into the Web-based CJIS integration backbone over time.
  - *Security Architecture*. The CJIS environment will be characterized by a robust security architecture that provides authentication mechanisms and maintains user/user type profiles to govern permission levels and access to criminal justice information. In addition, the architecture will have tracking mechanisms that provide an audit trail of user entry and activities within CJIS system components and services.
- *Management and Support Architecture*. This component represents the management of the future technical environment and its planned future architectures. It is understood that as the new CJIS technical environment changes, the IT support functions must also change to accommodate new technologies, practices, and management disciplines. While the CJIS plan does not define specific organizational or policy changes (since those changes will evolve over time and be driven by specific technology choices and decisions made during plan implementation), it does outline several important components that must be addressed. Key focus areas in this component include:

Management and support architectures help ensure that the technical environment is meeting business needs and can be sustained and enhanced over time.

- *Policies, Procedures, and Standards*. As the CJIS environment is implemented, the interdependencies and complexity of the overall environment will increase. This means that management policies, procedures, and tools must also evolve (e.g., configuration, release, and project management) to ensure that the technology can be implemented, sustained, and modified in a controlled fashion.
- *IT Organization*. As the technical environment to support CJIS changes over time, the IT support functions must also evolve and ensure the organizational structures, roles, and technical expertise are in place to manage the future shared CJIS environment. This includes recognizing the 24/7 operational needs of much of the criminal justice community.
- *Performance Monitoring*. Just as the business will measure achieving its desired outcomes, the IT functions will need measures and tools to ensure the technical environment is functioning optimally and meeting agreed-upon levels of service to the user community.

These architectural components combine to present a comprehensive framework for implementing the future CJIS environment. Each of the architectural components must be properly addressed if the CJIS vision is to be realized.

Implementation Strategy

Implementation strategy organizes tactical projects into a phased approach for delivery of the desired technology and business changes.

The vision, goals, and architectural framework previously described form the basis from which an implementation strategy and associated tactical plans were developed to move the state's criminal justice technology environment toward the desired future vision in a statewide integrated setting. The implementation strategy, each phase of which includes a number of projects, is centered on several key concepts:

- Maintaining a planning horizon of approximately 5 years to provide a longer-term perspective on the suite of actions and projects required to achieve the vision.
- Realizing demonstrable results and benefits in each phase of implementation.
- Providing decision points throughout implementation where decisions can be made on how to continue investment in CJIS for the future at both the project and phase level.
- Delivering near-term value to stakeholders, while ensuring movement toward the long-term vision.
- Identifying small, single-focused projects that can be completed within one implementation phase.
- Updating the plan on a regular, recurring basis to maintain currency and accommodate changes in strategic direction, policy, and needs.

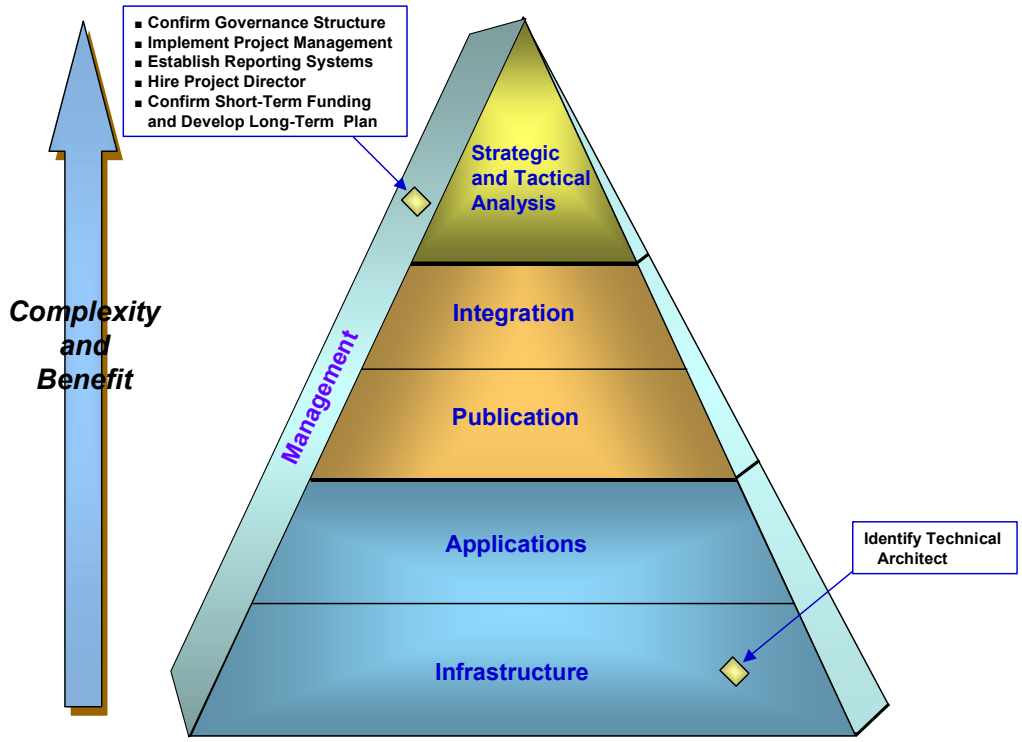
This phased implementation approach will provide visible results and operational benefits in a timed and incremental manner, building upon the components established in each phase to ultimately deliver the integrated information-sharing and decision-support capabilities that realize the full value and potential of an integrated criminal justice environment. The planning process resulted in defining five implementation phases, summarized below.

Phase 0 – Implementation Preparation

Phase 0 ensures that the governance and management structures along with key management positions are established prior to proceeding into implementation projects.

This phase, composed of seven projects, will formalize and put the governance, management, and reporting structures in place for CJIS implementation. This includes naming CJIS project director and a technical architect to provide day-to-day management and guidance for plan implementation. In addition, a long-term funding plan should be established in this phase. Figure 4, below, provides an overview of planned Phase 0 accomplishments.

Figure 4
Phase 0 – Implementation Preparation



At the end of Phase 0, the criminal justice community will be positioned to implement the technical and business changes that follow in subsequent phases.

Phase I – Proof of Concept

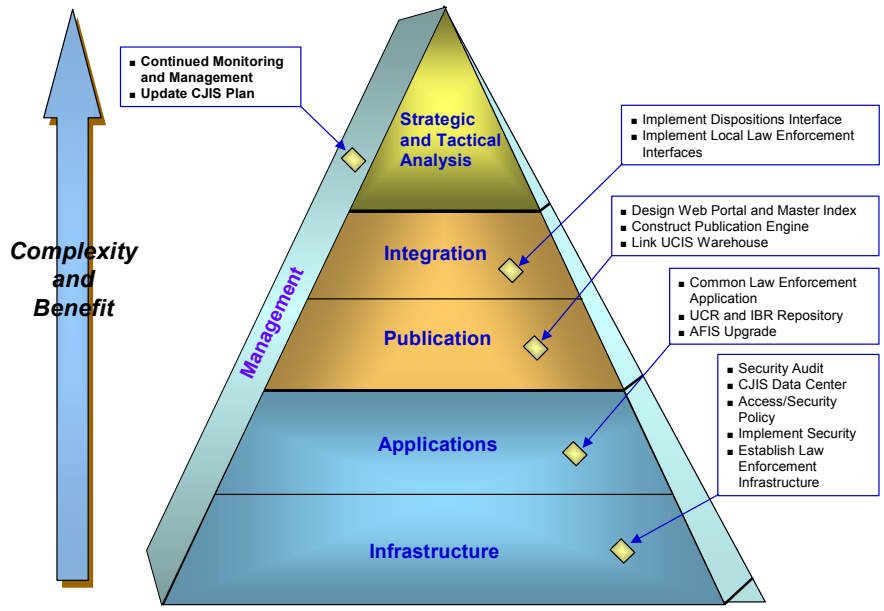
This phase, composed of 17 projects, will provide limited implementations of the future environment to ensure that the technical concepts, approach, and design are sound. During this phase, critical aspects of the infrastructure and exchange architecture will be designed and key design concepts will be proven before making them available communitywide. In addition, a common local law enforcement application and a Uniform Crime Reporting (UCR) and Incident-Based Reporting (IBR) repository, publication of selected criminal justice data, and the pilot of selected information exchanges between systems will be implemented.

It is expected that the implementations in this phase would be deployed to a limited number of users to ensure the technical design and solutions are sound before rolling out the

environment on a statewide basis. Figure 5, below, provides an overview of planned Phase I improvements.

Phase I provides initial benefits to criminal justice stakeholders, delivers key common applications, and establishes the design for more complex information sharing.

Figure 5
Phase I – Proof of Concept



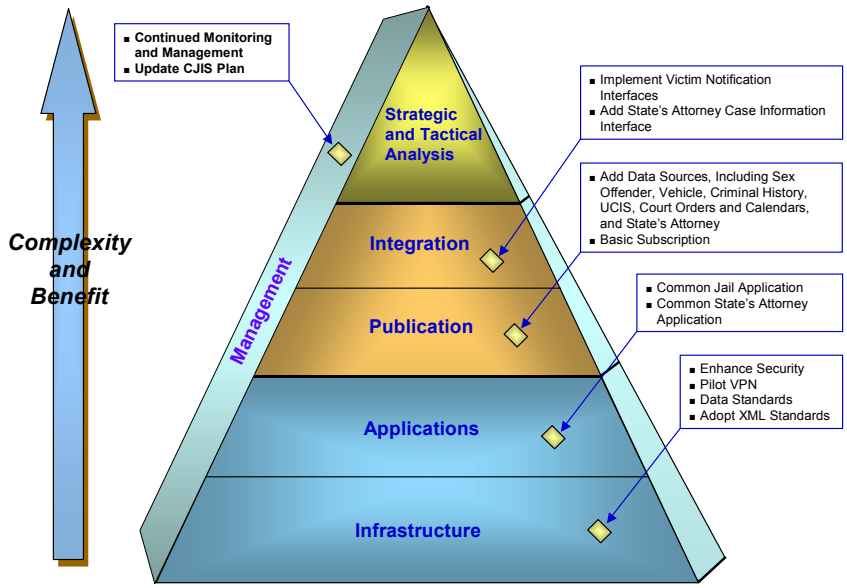
By the end of Phase I, criminal justice partners will realize an initial set of operational outcomes from CJIS plan implementation. These early benefits will demonstrate the initial benefits of information sharing and set the stage for more comprehensive efforts to follow.

Phase II – Backbone Development

This phase, composed of 14 projects, will expand the deployment of the information-sharing environment, increase publishing data sources, and add additional information exchanges to the Phase I implementation. This phase also implements the common State's Attorney application and common jail application. Figure 6 provides an overview of planned Phase II improvements.

Phase II establishes the technical information exchange environment, expands published criminal justice information, and makes significant progress in exchanging information between criminal justice systems.

Figure 6
Phase II – Backbone Development



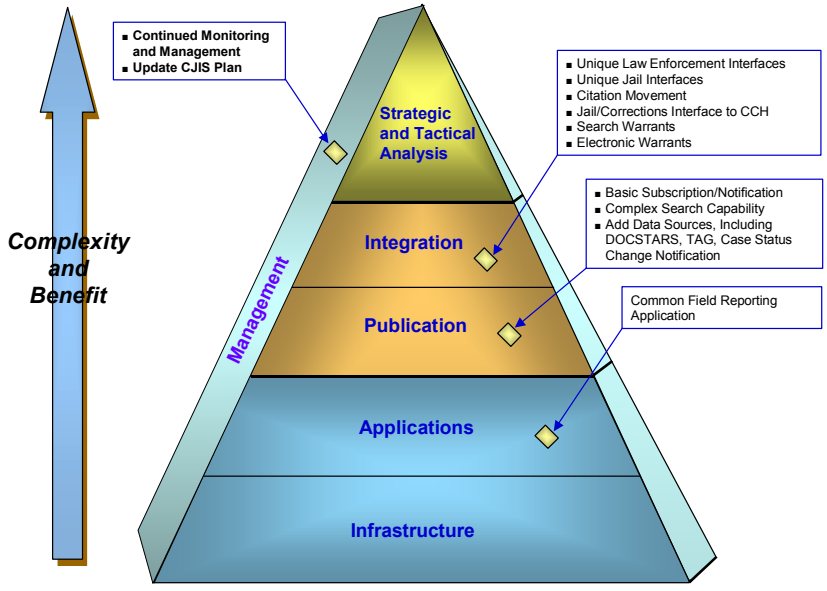
When Phase II is completed, the initial CJIS integration backbone will be in place, supporting additional information exchanges and expanded data accessible by justice stakeholders.

Phase III – CJIS Expansion

This phase, composed of 14 projects, will further expand the CJIS environment to all criminal justice stakeholders and establish common field systems. Also, more complex information exchanges and a unique system interface will expand the capabilities available to local justice partners. Figure 7 provides an overview of planned Phase III improvements.

Phase III substantially completes the information-access and -sharing environment and pilots an initial decision support environment for the criminal justice community.

Figure 7
Phase III – CJIS Expansion

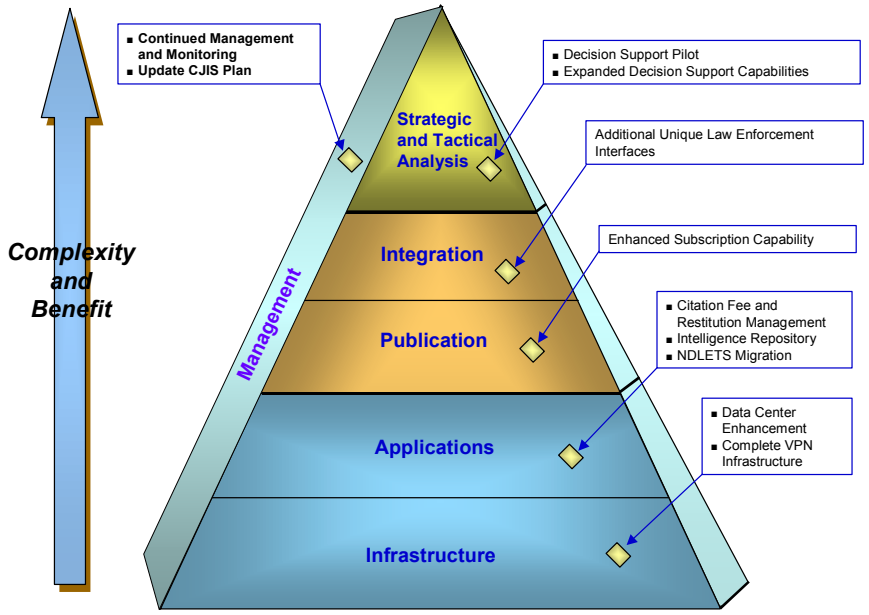


At the end of this phase, the integration backbone will have been enhanced with additional interfaces and the CJIS environment will be available to all criminal justice users

Phase IV – CJIS Enhancement

This phase, currently composed of nine projects, will enhance subscription capabilities, provide final key applications, implement a citation fee and restitution management system, and implement more robust decision support and analysis tools. A key addition to the CJIS environment during this phase is the migration of NDLETS. Figure 8, below, provides an overview of planned Phase III improvements.

Figure 8
Phase IV – CJIS Enhancement



Phase IV provides incremental integration capabilities and expands the decision support tools and solutions for criminal justice users.

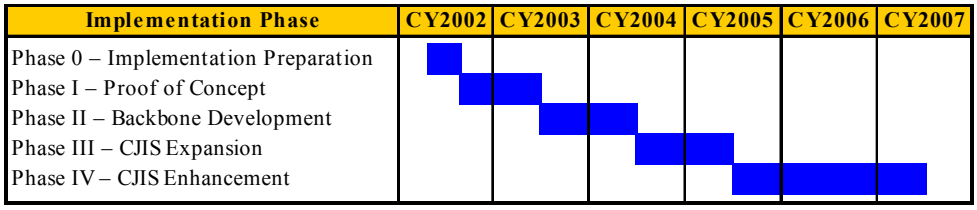
The CJIS implementation plan allows for incremental, measured progress and benefit. As implementation proceeds, regular updates to the CJIS plan should be made to accommodate lessons learned, financial constraints, and new requirements for the CJIS community to help ensure that the plan reflects the appropriate strategic priorities.

Budget and Schedule Estimate

If North Dakota is to realize its vision for an integrated CJIS environment that serves state and local criminal justice needs as well as the needs of other justice stakeholders, it requires an organized plan of action. Each phase of implementation has been broken down into a series of strategic projects that can be funded, scheduled, and acted upon in an incremental manner. The estimated 5-year timetable for plan implementation by phase is illustrated in Figure 9 below.

An implementation schedule has been established to provide an organized plan of action.

Figure 9
Implementation Schedule



In order to remain on schedule, the state must make the required investments to support implementation of the CJIS plan. As part of the planning process, estimated costs for each project and implementation phase were determined. Presentation of the budget requirements for the future CJIS environment includes two basic types of expenditures:

Budget estimates over the 5-year planning horizon include both onetime and ongoing operating costs.

- *Onetime Costs*. These investments are project-specific and occur only once during CJIS plan implementation. Costs in this category include such things as computer equipment, computer software, and contracted resources to assist with development and management.
- *Operating Costs*. These costs are recurring in nature and will continue to occur (e.g., monthly, annually) on a routine and permanent basis. This type of investment includes costs such as annual maintenance fees for licensed computer applications and the cost of permanent additional technology support staff that will operate a CJIS help desk as part of the ITD support operations.

It is important to recognize that the budget estimates in this report are planning estimates only, and actual costs may vary based on a wide variety of factors. More detailed budget estimates should be completed for each project as it is initiated.

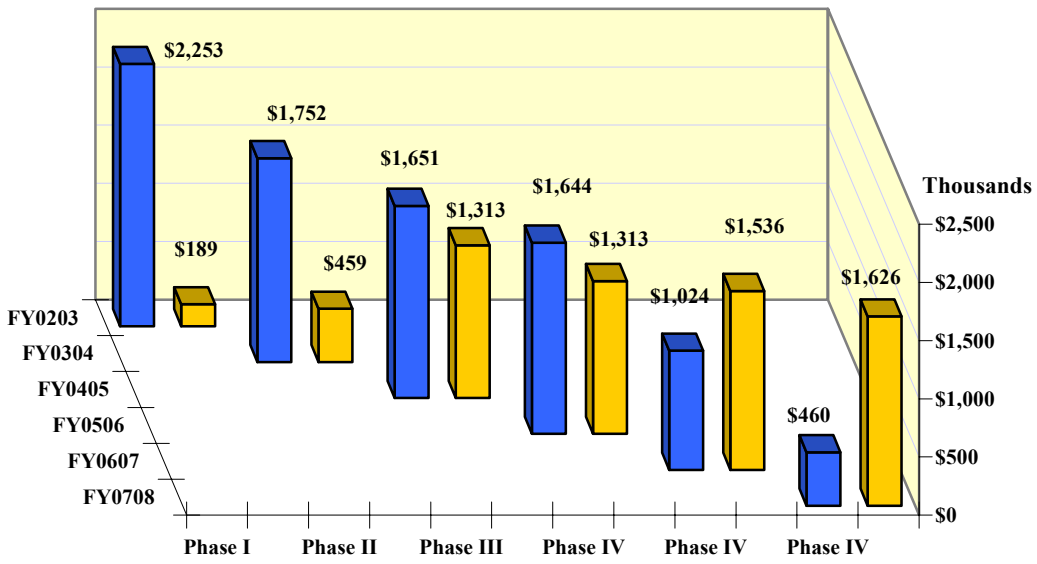
The capital cost of the CJIS project is $8.7 million, and the 6-year operating cost is $6.0 million.

The required investment for CJIS implementation is estimated at approximately $8.7 million, plus $6.0 million in ongoing operating costs over the course of the six fiscal years outlined in the plan.

Figure 10, below, provides an estimate for each phase of plan implementation. The darker column on the left side of each phase/year shows onetime cost estimates, while the right-hand column indicates incremental operating costs for that year. Note that Phase IV spans three fiscal years. In addition, it is important to note that the overall cost of the project changes from capital costs during the early phases to operational costs during later phases. The majority of operating costs are evenly split between software maintenance or support costs and staff costs required to operate a CJIS help desk through ITD.

The state can initially move forward with existing grant funding and concurrently define a long-term funding plan.

Figure 10
Estimated Capital and Operating Costs by Phase/Fiscal Year



The state can move forward with current grant funding to begin addressing integration goals. This will mean, however, that IT investment priorities must be clearly defined at a criminal justice enterprise level to ensure a coordinated investment in priority items that further the goals of information sharing and integration. This should be coupled with the development of a comprehensive funding plan that integrates state and local criminal justice needs and leverages the external funding sources that may be available to support implementation.

Prudent and well-managed investment in the CJIS plan can deliver significant benefit to criminal justice organizations and the citizens of North Dakota.

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The actions identified in the CJIS plan will be a significant challenge to all criminal justice stakeholders and the IT support functions within the state and local justice community. The CJIS plan will provide for prudent and practical investment in technology infrastructure, departmental and enterprise applications, comprehensive information-sharing technology, and IT support. Properly managed, implemented, and measured, the technology investments identified in this plan can enable significant improvements in the efficiency and effectiveness of criminal justice programs, services, and operations.